COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Virginia Electric and Power Company
Chesapeake Energy Center
Chesapeake, Virginia
Permit No. TRO- 60163

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Virginia Power And Electric Company has applied for a Title V Operating Permit for its Chesapeake Energy Center facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: _____
Laura D. Corl
(757) 518-2178

Air Permit Manager: _____ Date: _____
Jane A. Workman

Regional Director: _____ Date: _____
Francis L. Daniel

I. Facility Information

Permittee Information
Virginia Electric and Power Company
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Responsible Official
O. Preston Sloane
Station Director, Chesapeake Energy Center

Acid Rain Designated Representative (if different than above)
C .D. Holley
Vice President - Fossil & Hydro
USEPA ATS-AAR ID Number 602099

NO_x Budget Trading Authorized Account Representative
C. D. Holley
Vice President - Fossil & Hydro
USEPA AAR ID Number 602099

Facility ID
Chesapeake Energy Center
2701 Vepco Street
Chesapeake, Virginia 23320

Facility Contact Person
Pamela F. Faggert
Vice President & Chief Environmental Officer
(804) 273-3467

AFS Identification Number: 51-550-00026
ORIS Code: 3803
NATS Facility Identification Number: 003803000001

Facility Description (provided for informational purposes only): NAICS Code 221112 – Electrical Power Generation - Fossil. The facility combusts fossil fuels for the generation of electrical power. The facility produces electrical power using four (4) coal-fired steam generators, eight (8) combustion turbines and a carbon burn-out unit.

The four steam generating boilers are also capable of firing No. 2 fuel oil as a primary fuel. Additionally, Units 1 and 2 are capable of firing natural gas while Units 3 and 4 are capable of firing No. 6 fuel oil. Units 3 and 4 are also capable of evaporating boiler solvent cleaning solution. Units 1 and 2 have a close-coupled overfire air system to control NO_x emissions. This system will be replaced by a rotating overfire air (ROFA) system. Units 3 and 4 have selective catalytic reduction (SCR) systems and Unit 3 also has low NO_x burners. The NO_x control equipment on Units 1 through 4 is voluntary and is not required by permit. The facility is operating under an EPA consent decree which requires the use of the SCRs on Units 3 and 4 by January 1, 2013 and the use of PM CEMS on Units 3 and 4 by December 31, 2009.

The eight combustion turbines are each capable of burning either natural gas or distillate fuel oil. The carbon burn-out unit burns coal fly ash generated in the boilers at this facility. In addition, the facility consists of coal and fly ash handling systems.

The facility is a Title V major source of SO_2, NO_X, PM, PM_{10}, CO, HCl and HF. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility was previously permitted under 3 Minor NSR Permits dated 6/18/84, 4/25/95, and 6/29/07, 2 State Operating Permits dated 9/3/96 and 4/1/02, a PSD Permit dated 10/20/98. Thee current Acid Rain permit expires 12/31/2007 and this permit will replace that permit and add the CAIR application as well.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time. The facility is part of an EPA Consent Decree and specific conditions have been added to the permit.

The revised application submitted by the facility on October 26, 2007, states that the facility will be complying with applicable requirements that are not SIP approved. It also states that in certain circumstances the EPA Consent Decree compliance provisions may vary with SIP provisions. When a conflict exists, the facility will be in compliance with the EPA Consent Decree.

III. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility are listed in Section II of the permit.

IV. EMISSIONS INVENTORY

A copy of the 2006 Pollutant Emissions Report is attached. Emissions are summarized in the following table.

2006 Emissions

	Pollutant Emission in Tons/Year					
	SO_2	NO_x	CO	PM	PM_{10}	VOC
Total	26806	6141	382	445	109	46

2006 Facility Hazardous Air Pollutant Emissions

	Pollutant Emission in Tons/Year					
	HCl	HF	NH_3	Cyanide Compounds	Benzene	Selenium Compounds
Total	905	113	4	1.9	1	1

V. APPLICABLE REQUIREMENTS

Several federal regulations apply to some of the units at the Chesapeake Energy Center facility. They are as follows:

40 CFR Part 60 - Subpart Y - Standards of Performance for Coal Preparation Plants. This standard applies to the Coal Handling System.
40 CFR Part 61 - Asbestos. Details requirements for asbestos removal at demolition and renovation activities. If such activities should occur, the facility shall comply with the applicable provisions. This standard applies facility wide.
40 CFR Part 63 - National Emissions Standards for Hazardous Air Pollutants for Source Categories. No standards have currently been promulgated for this facility.
40 CFR Part 64 - Compliance Assurance Monitoring (CAM) Requirements. Details requirements for Compliance Assurance Monitoring. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 68 - Chemical Accident Prevention Provisions. Describes requirements for Risk Management Plans. This standard applies facility wide.
40 CFR Part 70 - Operating Permits Regulation. Institutes operating permit requirements. This standard applies facility wide.
40 CFR Part 72, Subparts A, B, C, D, E, and F - Acid Rain Program. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 73, Subparts B, C, and D - Acid Rain Allowances. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 75, Subparts A, B, C, D, E, F, and G - Acid Rain Program Monitoring Requirements. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 76 - Acid Rain Program, Phase II NO_x Limitations. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 77 - Acid Rain Program, Excess Emissions. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 78 - Acid Rain Program Appeal Procedures. This standard applies to the boilers (Units 1, 2, 3, and 4).
40 CFR Part 82 - Protection of Stratospheric Ozone - Subpart B - Servicing of Motor Vehicle Air Conditioners. This standard applies facility wide.
40 CFR Part 82 - Protection of Stratospheric Ozone - Subpart F - Recycling and Emissions Reduction. This standard applies facility wide.
40 CFR 97 - NO_x Budget. Outlines emissions limitations and compliance schedules for NO_x reductions. This standard applies to the boilers (Units 1, 2, 3, and 4).

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5 Chapter 40	Existing Stationary Sources
9 VAC 5 Chapter 40	Article 1: Visible Emissions and Fugitive Dust/Emissions
9 VAC 5 Chapter 40	Article 8: Emission Standards for Fuel Burning Equipment
9 VAC 5 Chapter 50	New and Modified Stationary Sources
9 VAC 5 Chapter 50	Article 1: Visible Emissions and Fugitive Dust/Emissions
9 VAC 5 Chapter 80	Part I: Permits for New and Modified Sources
9 VAC 5 Chapter 80	Article 1: Federal Operating Permits for Stationary Sources

9 VAC 5 Chapter 80	Article 2: Permit Program Fees for Stationary Sources
9 VAC 5 Chapter 80	Article 4: Insignificant Activities
9 VAC 5 Chapter 80	Article 8: Permits for Major Stationary Sources and Major Modifications Locating in Prevention of Significant Deterioration Areas
9 VAC 5 Chapter 170	General Administration
9 VAC 5 Chapter 140	NOx Budget Trading Program NOX Annual Trading Program NOX Ozone Season Trading Program SO2 Annual Trading Program Hg Budget Trading Program for Coal Fired Electric Steam Generating Units

VI. Fuel Burning Equipment

A. Limitations

The four coal fired steam generating boilers are also capable of firing No. 2 fuel oil as a primary fuel. Additionally, Units 1 and 2 are capable of firing natural gas while Units 3 and 4 are capable of firing No. 6 fuel oil. Units 3 and 4 are also capable of evaporating boiler solvent cleaning solution and are limited on both the rate of combustion and the total annual amount combusted. Units 1 and 2 have a close-coupled overfire air system to control NO_x emissions. This system will be replaced by a rotating overfire air (ROFA) system. Units 3 and 4 have selective catalytic reduction (SCR) systems and Unit 3 also has low NO_x burners. The NO_x control equipment on Units 1 through 4 is voluntary and is not required by permit. The EPA consent decree does require the use of the SCRs on Units 3 and 4 by January 1, 2013 and the use of PM CEMS on Units 3 and 4 by December 31, 2009. PM emissions are controlled by ESPs on each boiler and under the consent decree the facility is required to perform an optimization study of the ESPs, create an operation plan based on the optimization study and then operate using the plan. The facility is limited to 0.1116 lb/mmBtu from Units 3, 4 and the all the turbines combined.

The eight combustion turbines are each capable of burning either natural gas or distillate fuel oil.

The carbon burn-out unit burns coal fly ash generated in the boilers at this facility. Particulate emissions from this facility are controlled by in-line cyclones used for product recovery, a fabric filter and the ESPs serving Boiler units 3 and 4. SO2 emissions are controlled by limestone injection. The facility is limited to processing 250,000 tons per year of fly ash.

B. Monitoring and Recordkeeeping

Continuous opacity monitors are used on all four boilers. On Units 1 and 2, CEMS will monitor the NO_x and SO_2 emissions. On Units 3 and 4, CEMS will monitor the emissions of SO_2. For Unit 3 and 4, due to specific requirements in the permit regarding the burning of boiler cleaning solvents, the facility must monitor the NO_x emissions that result from combusting this material. The facility must calculate the PM emission rate to prove compliance with the PM emission rate limitation for all the turbines and boiler Units 3 and 4. The facility is required to calculate and monitor their CO and VOC emissions from boiler Units 1 and 2.

CAM has been determined to be applicable to the ESPs on Units 1, 2, 3, and 4. The SCRs on Units 3 and 4 are not applicable to CAM because they are currently in use voluntarily by the facility to meet the limitations of the acid rain program and therefore are required to meet the monitoring requirements of the Acid Rain program when in use. A CAM plan for the ESPs is included in the permit.

The facility must calculate and monitor the total emissions of NO_X from the entire facility to prove compliance with the Ozone Season permit they were issued and the Acid Rain program.

C. Testing

Under the EPA consent decree, the facility is required to conduct annual stack testing for PM on each stack. The facility will also have to perform testing required under Part 75.

D. Reporting

The facility is required to submit the following reports:

1. Excess emission reports for SO_2 and NO_X for Units 1 and 2;
2. Ozone season reports
3. Annual emission statement
4. Title V annual compliance reports
5. Title V Semi annual monitoring reports
6. Stack test reports,
7. Rata and CGA reports
8. Semi-Annual reports required to meet the Consent Decree
9. Acid Rain Reports

VII. Coal and Fly-Ash Handling

A. Limitations

Particulate emissions from the coal handling and the fly-ash silo loading station are controlled by wet suppression systems. The fly -ash handling system is controlled by cyclones and fabric filter in series.

B. Monitoring and Recordkeeping

The emissions from the coal handling/storage process for Units 1 and 2 will be calculated monthly. The emissions from each filter in the fly-ash handling process will be calculated monthly.

There are no testing or reporting requirements specifically for this part of the facility.

VIII. Streamlined Requirements

The following condition has been streamlined out of the permit it is now obsolete. See Condition III.A.35.

> The total nitrogen oxide (NO_x) emission from Virginia Power's Chesapeake Energy Center and Yorktown Power Station combined shall not exceed 5,500 tons from June 1 to August 31 (inclusive) per calendar year, started in the year 2000.
> (9 VAC 5-80-110 and Condition 3 of 9/3/96 Ozone Season permit)

In conditions IIIA.2, 3 and 15, the reference to ASTM D396-78 has been changed to remove the "78". The reference now reads "ASTM D396".

In Condition III.B.39 the language has been streamlined to better clarify how the monitoring of NO_x and SO_2 shall be done.

The following requirement from the Consent decree has not been added to the permit because it has already been completed.

> Permittee shall conduct ESP Optimization Studies per Paragraph 79 of the Decree by April 21, 2009. CEC has completed this condition of the decree.

Removed the reference to ASTM D396-78 for the oil certification conditions (III a 2, 3, 15) as this method has been updated to a more recent version. The reference now reads ASTM D396.

IX. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

A. Comments on General Conditions (Section VIII of Permit)

1. B. Permit Expiration

   This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

2. F. Failure/Malfunction Reporting

   Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

3. U. Malfunction as an Affirmative Defense

   The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

4. Y. Asbestos Requirements

   The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

X. STATE ONLY APPLICABLE REQUIREMENTS

Both the odor and toxics regulations are applicable and are listed in the permit.

XI. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Virginian Pilot from November 9, 2007 to December 10, 2007.